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Hello. My name is Jay Freeman. I have own a California company, SaurikIT, LLC. Our (very) small organization provides tools to back the popular process of modifying and enhancing the software deployed on smartphones, in particular the iPhone (though we also target Android).

These modifications are benign from the perspective of the FCC. These devices are designed with two separate CPUs: a baseband to manage all of the antennas, and a separate application processor that runs the high-level software with which the user interacts (including all "apps").

All of the modifications that developers make to these devices operate only on this application processor, and have no ability to control whatever aspects of the radio that might be configured. In fact, even changes as simple as "carrier unlocking" have not been possible for many years.

In practice, while some manufacturers have used narratives behind their closed platforms to limit the abilities for competitors to use their platforms, there have existed manufacturers (such as Google, with their Nexus line of phones) which allow users to run their own operating system.

These phones are, as far as I currently understand (and maybe I am wrong), are classified as U-NII devices due to their ability to operate in the 5GHz band to obtain network connectivity. This means that they would fall under the new rules being proposed regarding software security.

A clarification of these rules from the FCC stated that "an applicant must describe the overall security measures and systems that ensure that: 1. only properly authenticated software is loaded and operating the device; and 2. the device is not easily modified to operate with RF parameters outside of the authorization". I would like to draw particular attention to the "and".

I believe that this is a mistake, and could lead to a problematic situation where it is difficult to have hardware that has open software (an idea for which there are numerous strong defenses that have no negative effect on wireless compliance, including privacy and security for the user's data stored on the device, which otherwise is essentially under the control of the manufacturer).

The simple modification I would suggest is to make it clear that the only software which the FCC would like to see secured is that which runs on the radio baseband processor, as this is not the software which users actually have interest to modify: I have eight years of experience in this field, and almost no users have reasons to modify this software (other than carrier unlocks, for which I think we should have legislation to guarantee elsewhere), particular radio configuration.

As manufacturers often want to have ways to modify the ancillary high-level features of a device with ease, omitting the parts of the device which control benign functions, such as the address book or the video player, would generally help spur innovation in the field of wireless devices.

As it stands, major manufactures such as Samsung, HTC, and Motorola, are unable to rapidly innovate these benign features of their devices, pointing out that every time they make changes to the software of their device they have to go back through a full FCC compliance suite. This means that even critical security updates, features that protect users from malicious agents, are unable to be distributed due to a set of rules that are designed to protect functions of the device that we know are simply fundamentally not able to be modified due to being on a different chip.

I hope the FCC takes particular note of this recommendation due to their asking for feedback on how to handle modular devices. It has become increasingly incorrect to define a device as the fully functioning unit used by the user: we should allow for separation of concerns, allowing each part of a device to meet separate compliance choices, making it easier for everyone to innovate.